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EXAMINER	
DIVECHA, KAMAL B	

ART UNIT	PAPER NUMBER
2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

mN

Office Action Summary	Application No.	Applicant(s)	
	09/812,139	HUDSON MICHEL, BARTLETT SCOTT	
	Examiner	Art Unit	
	KAMAL B. DIVECHA	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-20 are pending in this application.

Claim 5 was previously cancelled.

Claim 19-20 are newly added claim.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 11, 2007 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Furthermore, in response filed, **applicant acknowledges the following**:

- Claim 1 claims a broadcasting method and not the creation of forwarding tables as now claimed in new claims 19 and 20 (remarks, pg. 18: 1st paragraph).
- Other systems do have caches, and do have forwarding tables, and do have routing tables (remarks, pg. 18: 2nd paragraph).
- Jordan does maintain a caching table, which can be used to forward URL requests (remarks, pg. 24).

- A caching table points directly to alternative source caches having stored data (remarks, pg. 25).
- For maintaining the caching table, Jordans information may include URL requests, the requestor, and the destination (remarks, pg. 27).
- Jordan bilaterally multicasts bi-referenced information to maintain caching tables (remarks, pg. 28).

In response filed, **applicant argues in substance that**:

a. Other systems do have caches, and do have forwarding tables, and do have routing tables, but do not broadcast tri-referenced associated routing information. Hence, the focus of claim 1 is directed to a necessary point of novelty. The threshold point of novelty is the broadcasting of tri-referenced associated routing information (remarks, pg. 18-19: 2nd paragraph).

In response to argument [a], Examiner respectfully disagrees because initially, and as described in the previous office actions, the "tri-references routing information are not recited in the claims".

Applicant should note that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 1 simply associates the source IPA and the originating URL, and transmitting this information.

It is simply unclear as to how applicant interprets the source IPA and the URL to be equivalent to "tri-referenced routing information?"

b. Jordan does not solve the problem of migrating forwarding tables from one cache to another, nor uses the solution of transmitting routing information associating a URL-id with a source IPA of the source storing the URL-id web content data so as to migrate the forward and routing table about the cooperative caches (remarks, pg. 19, pg. 22).

In response to argument [b], Examiner respectfully disagrees in light of the followings:

First, the context of the claim fails to disclose, teach, suggest or event hint the process of migrating forwarding tables from one cache to another, nor it uses the solution of transmitting routing information associating a URL-id with a source IPA of the source storing the URL-id web content data so as to migrate the forward and routing table about the cooperative caches.

In other words, the features upon which applicant relies (as in argument a) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

On the other hand, Jordan, in its clear context, explicitly teaches the process of transmitting the routing information (such as source address, destination address, forwarding address, next hop address: as disclosed in the request) to an arbitrary cache or destination upon a cache miss, wherein the a new entry is created for the object in a caching table, a routing or forwarding table (col. 6 L50-67 and fig. 2a).

c. As such, the present invention solves the problem of maintaining ...by broadcasting tri-referenced associated routing information (remarks, pg. 19-20, 22-25).

In response to applicant's arguments, applicant should note that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

On the other hand, the body of claim merely suggests "transmitting the routing information from the proximal cache to the destination cache". The "transmitting" process as in the claim to a single destination is certainly not equivalent to a "broadcasting".

Furthermore, Garcia explicitly discloses broadcasting the routing update message which comprises routing information (col. 5 L36 to col. 6 L16, col. 7 L55 to col. 8 L67, col. 10 L56 to col. 11 L64: Information exchanged in routing protocol such as network addresses, cost, usage of distance metric).

d. A distal cache can then use this broadcast communication for building a forwarding and routing table (remarks, pg. 21).

In response to argument [d], Applicant's arguments are erroneous and contradicting. Initially, applicant admitted that Claim 1 claims a broadcasting method and not the creation of forwarding tables as now claimed in new claims 19 and 20 (remarks, pg. 18: 1st paragraph), whereas on pg. 21 of remarks, applicant now attempts to argue that the broadcast information is for building a forwarding and routing table, i.e. creating forwarding and routing table.

e. Jordan does not teach a method of broadcasting tri-referenced routing information, including an association between URL-id and an alternative source of the URL-id web content data (remarks, pg. 22).

In response to argument [e], Examiner disagrees because the claim fails to teach, disclose and/or suggest tri-referenced routing information, including an association between URL-id and an alternative source of the URL-id web content data.

f. A search of specification reveals that the term HOP is not found at all...Nonetheless precise and careful reading is required to fully understand the differences between Jordan and the present invention (remarks, pg. 29-30).

Applicant is suggested not to rely on the terms used in the claim language for teachings in the prior art. For example: the term "HOP" in the networking art is equivalent to a node, cost. Etc. The term "route" is equivalent to terms "path", "link", etc.

These terminologies and the teachings are known to a skilled artisan in the networking art.

Applicant should also note that during patent examination, the pending claims must be "given >their< broadest reasonable interpretation consistent with the specification." > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

For applicant's convenience, Examiner has cited PRIOR ART on Multicasting and/or multicast messages as utilized in Jordan.

Terminal Disclaimer

The terminal disclaimer filed on October 11, 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on application number 09/810,303 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting

The Double Patenting rejection presented in the previous office action is withdrawn in light of the Terminal Disclaimer filed on October 11, 2007.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 2-3, 8, 12 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites "the plurality of cooperative web caches" and "the proximal web cache". There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites "the originating URL identifier is a proximal URL identifier". The limitation renders the scope of the claim unascertainable because it is unclear what the proximal URL identifier is. It is unclear how can a proximal cache can be a proximal URL id.

Claim 8 recites "the proximal web cache" in the preamble. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites "the proximal web cache" in the preamble. There is insufficient antecedent basis for this limitation in the claim.

Claims 19 and 20 recites "the forwarding table". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 6, 8, 9, 11, 12, and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al. (hereinafter Jordan, US Patent No. 6,438,652 B1) in view of Garcia-Luna-Aceves et al. (hereinafter Garcia, US 6,836,463 B2).

As per claim 8, Jordan discloses a method of transmitting from a proximal cache at a proximal IPA a routing information for indicating a distal cache storing web content data associated with a URL of a web server permanently storing the web content data, the proximal web cache is a first one of the plurality of cooperative web caches (fig. 1a, col. 2 L4-39, col. 3 L19-41), the method comprising:

- generating at the proximal IPA a URL identifier for indicating the web content data of the URL stored in the distal web cache (col. 5 L25 to col. 6 L66: updating the caching table with new object id, col. 8 L37 to col. 9 L45);

- generating at the proximal IPA the proximal IPA for indicating the location of the proximal cache (col. 6 L50 to col. 7 L35, col. 8 L37 to col. 9 L45: multicast message comprises an originating address, i.e. source address),

- generating at the proximal IPA a destination IPA for indicating a destination cache (col. 6 L50 to col. 7 L35, col. 8 L37 to col. 9 L45: a multicast message also includes a destination address),

- associating at the proximal IPA the proximal IPA and the URL identifier as the routing information (col. 6 L50 to col. 7 L35, col. 8 L37 to col. 9 L45: multicast message), and

- transmitting the routing information from the proximal cache at the proximal IPA to the destination cache at a destination IPA (col. 6 L50 to col. 67 L65, col. 8 L37 to col. 9 L45: multicasting a message to all other cache servers indicating new ownership, i.e. new routing information).

However, Jordan does not disclose the process of broadcasting the routing information from proximal cache and the process of generating at the proximal IPA a distance metric for indicating a web hop distance of any number of the plurality of web hops through which the data would be communicated from the source to the destination.

Garcia explicitly discloses the process of broadcasting the routing update message for updating the routing information (col. 9 L40-50: the routing message is broadcast, col. 10 L24-50) and the process of generating the distance metric for indicating a web hop distance of any number of the plurality of web hops through which the data would be communicated from the source to the destination (col. 5 L36 to col. 6 L16, col. 7 L55 to col. 8 L67, col. 10 L56 to col. 11 L64: Information exchanged in routing protocol such as network addresses, cost, usage of distance metric).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Jordan in view of Garcia in order to generate at the proximal

IPA a distance metric for indicating a web hop distance through which the data, i.e. content would be communicated from the source to the destination and broadcast the update message using the routing protocol.

One of ordinary skilled in the art would have been motivated because it would have enabled reporting the changes to the routing table (Garcia: col. 5 L51-59).

As per claim 6, Jordan discloses the process wherein the source is a web server distally and permanently storing the web content and the sourcing IPA is a web serer IPA indicating the IPA location of the web server (fig. 1a, fig. 1B and col. 3 L18-50).

As per claim 9, Jordan in view of Garcia discloses the process wherein the distance metric is greater than one indicating a number greater than one of the number of web hops between the destination caches through the proximal cache to the distal cache storing the web content data (Garcia: col. 5 L36 to col. 6 L16, col. 7 L55 to col. 8 L67, col. 10 L56 to col. 11 L64). Motivation to combine set forth in claim 1.

As per claim 11, Jordan in view of Garcia discloses the process of repeating the URL identifier generating step, proximal IPA generating step, distance generating step, associating step, a plurality of times for generating a plurality of routing items each comprising a url and a distance metric, and incorporating the plurality of routing items within protocol data structure within a routing packet prior to the transmitting step, the routing protocol packet comprising url and distance metric and proximal and destination IPA (Jordan, col. 9 L4-45, col. 10 L15-58 and Garcia: col. 5 L36 to col. 6 L16, col. 7 L55 to col. 8 L67, col. 10 L56 to col. 11 L64). Motivation to combine set forth in claim 1.

As per claim 15, Jordan in view of Garcia discloses the process wherein the storing steps created a routing table for cross referencing the plurality of URL identifiers to the plurality of distance metrics and to one or more cooperative web caches of the cooperative web caches, the one or more cooperative web caches for routing URL identifiers to distal web caches storing the web content of the respective plurality if URL identifiers (Jordan, col. 8 L40-67, col. 9 L10-21; Garcia: col. 5 L36 to col. 6 L16, col. 7 L55 to col. 8 L67, col. 10 L56 to col. 11 L64). Motivation to combine set forth in claim 1.

As per claim 16, Jordan discloses the process wherein the proximal cache and the one or more cooperative web caches being within a local group of cooperative web caches (fig. 1a, fig. 1b and col. 3 L19-41).

As per claim 17, Jordan discloses the process wherein the proximal cache is within one or more local groups of cooperative web caches (fig. 1a-fig.1b and col. 3 L19-41).

As per claim 19, Jordan in view of Garcia discloses the process of storing in the destination cache at the destination IPA in a forwarding and routing table the association between the URL and the source IPA, the forwarding table for determining the source IPA from a URL request for forwarding and routing a request for web content data to the source IPA (col. 5 L25 to col. 6 L66: updating the caching table with new object id, col. 8 L37 to col. 9 L45, fig. 2a).

As per claims 1-4, 12, 14, 18 and 20, they do not teach or further define over the limitations in claims 8, 6, 9, 11, 15-17 and 19. Therefore claims 1-4, 12, 14, 18 and 20 are rejected for the same reasons as set forth in claims 8, 6, 9, 11, 15-17 and 19.

3. Claims 7, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al. (hereinafter Jordan, US Patent No. 6,438,652 B1) in view of Garcia-Luna-Aceves et al. (hereinafter Garcia, US 6,836,463 B2), and further in view of Bertis et al. (hereinafter Bertis, Us 6,092,100).

As per claim 7, Jordan in view of Garcia does not disclose the process wherein the originating url is selected from the group consisting of, an exact url identifier being an exact url comprising plurality of urls, a wildcard url identifier being a wildcard url comprising a plurality of url components a last url component of which being a wildcard component, and a coded url identifier being a coded url comprising a series of hashing codes of decomposed url being a decomposition of the url selected from the group consisting of either an exact url or a wildcard url each of which comprising a series of url components, the series of hashing codes being a sequence of hashing codes of respective urls segments of a respective series of increasingly concatenated url components of the series of url components of the url.

Bertis explicitly discloses the process wherein the originating url is selected from the group consisting of, an exact url identifier being an exact url comprising plurality of urls (fig. 4 item #65, 67, fig. 5 item #96, 98), a wildcard url identifier being a wildcard url comprising a plurality of url components a last url component of which being a wildcard component (fig. 6 item #110), and a coded url identifier being a coded url comprising a series of hashing codes of decomposed url being a decomposition of the url selected from the group consisting of either an exact url or a wildcard url each of which comprising a series of url components, the series of hashing codes being a sequence of hashing codes of respective urls segments of a respective

series of increasingly concatenated url components of the series of url components of the url (fig. 6 item #114, 116, fig. 7A, col. 2 L59 to col. 3 L12).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Jordan in view of Garcia, and further in view of Bertis in order to select the exact url from a group consisting of exact url, wildcard url, and hash codes of the respective exact urls.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for efficiently searching the urls (Bertis, col. 2 L50-67).

As per claims 10 and 13, they do not teach or further define over the limitations in claim 7. Therefore claims 10 and 13 are rejected for the same reasons as set forth in claim 7.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Inohara et al., US 6,256,747 B1: Managing distributed servers.

b. Garcia-Luna-Aceves et al., US 2002/0004846 A1: Locating Closest server using URL.

c. McCanne, US 6,785,704 B1: Content Distribution system.

d. Lowery et al., Us 2002/0107934 A1: Dynamic Distributed data caching.

e. Grove et al., US 6,820,133 B1: High performance delivery of web content.

f. Murai et al., US 6,539,000 B1: Multicast communication method and apparatus: See fig. 12-13.

g. Imai et al., US 6,862,279 B1: Multicast distribution system of packets: See fig. 2.

h. Sampat et al., US 6,279,029 B1: Server/Client Architecture and Method for Multicasting on a computer network.

Conclusion

This Action is made Non-Final.

Examiner's Remarks: The teachings of the prior art should not be restricted and/or limited to the citations by columns and line numbers, as specified in the rejection. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner, in order to move prosecution forward.

In the case of amendments, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and support, for ascertaining the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamal Divecha/

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